World Trade, the Middle East, and the Stability of World Oil Supplies

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1. INTRODUCTION

IT has now been over six years since a major disturbance in the Middle East interrupted the international flow of oil. But the preceding decades saw significant disruptions in 1973, 1979, 1980 and 1990, all of which raised world oil prices; and in 1986 when the practical collapse of OPEC led to a 50 per cent drop in prices.

What are the prospects for continued calm in the future? And how much difference does it make? This article will address, first, the world outlook for energy and in particular for oil, which suggests growing dependence on oil from the Middle East. Middle Eastern oil in practice means the Persian Gulf. I exclude Algeria and Libya as relatively inelastic suppliers; as a result of poor pricing policies Egypt consumes most of the oil it produces; Sudan is inhospitable to foreign investors. That leaves the Arabian peninsula oil producers — Saudi Arabia, the United Arab Emirates (UAE), Kuwait, Oman, Qatar and Yemen, in order of oil exports; plus Iraq and Iran. The prospects for oil from the Caspian Sea will be addressed briefly at the end.

This paper will address the prospects for political stability in the Persian Gulf region, the interests of governments there, and the physical vulnerabilities of the region. It concludes with some observations on how the probability of disturbances may be reduced, and on how the consequences can be mitigated if disturbances do occur.

2. RECENT TRENDS IN WORLD OIL TRADE

The world economy grew by 46 per cent in real terms between 1980 and 1995, from $18 trillion to $26 trillion, in 1995 dollars. World trade grew even faster, by

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89 per cent. And because of inflation, especially in the early 1980s, the value of world trade grew still more rapidly, by 146 per cent, or over 6 per cent a year. The growth in the world economy was accompanied by increased demand for energy, and especially for oil. But in part in response to the high oil prices of the early 1980s, conservation of oil occurred at a more rapid pace than it had in earlier decades, and world demand for oil grew by only 15 per cent, from 61 to 70 million barrels a day (one million barrels a day equals roughly 50 million metric tons a year).

Fuels (mostly oil) accounted for nearly a quarter of world exports in 1980, the peak year for oil prices. By 1995 the share of fuels in world exports had fallen to only 7.2 per cent. Over this 15-year period the value of fuel exports fell by 27 per cent while total world exports grew by 146 per cent. By 1995 fuel exports, at $359 billion, were 12 per cent lower than world exports of foods. Most of the drop in fuel exports was experienced by the Middle Eastern countries, whose share fell from 41 per cent in 1980 to 23 per cent in 1995, while Africa's share dropped from 18 to 13 per cent. Thanks in large part to North Sea oil, the export share of developed countries rose from 18 to 31 per cent; Russia also increased its share of world oil exports.

Rapid economic growth in East and South Asia led to a sharp rise in fuel imports by countries of those regions, and their share of world fuel imports doubled to 15 per cent between 1980 and 1995. The share of world imports of fuels by developed countries fell by seven percentage points during the same period, to less than 75 per cent.

While total world exports grew by 146 per cent over 1980–1995, exports from Africa and Western Asia actually declined in value, due wholly to the substantial fall in their oil earnings. Despite this decline in its major source of earnings, Africa managed to increase its imports over the period, albeit at 21 per cent dramatically less than the growth in world trade. Even more striking, imports into the Middle East excluding Israel actually declined by 15 per cent over the period, and accounted for less than 2.4 per cent of world trade by the mid-1990s. Both regions were net exporters of capital in the unusual year 1980, whereas by 1995 both regions were substantial net international borrowers, to finance their deficits in imports of goods and services.

While some oil and gas exporters — Egypt, Indonesia, Malaysia, Mexico and China — have diversified substantially away from dependence on oil and gas export revenues over the past decade, or have seen their oil export revenues fall because of growing domestic consumption, the major exporters — Saudi Arabia, Iran, Venezuela, UAE, Kuwait and Nigeria — continue to depend overwhelmingly on oil exports (more than 70 per cent of export revenues).

3. THE WORLD OUTLOOK FOR OIL TO 2015

The world economy is in relatively good balance in the late 1990s and can look forward to reasonable growth over the next decade or two. The performance in Japan and Europe has been lack-lustre recently, but can be expected to improve early in the next century. Growth is robust in China, South Asia, and Latin America, and is likely in time to resume in Korea and Southeast Asia after the recent setbacks. The United States is growing at or near its potential. Growth in Russia will pick up from the no-growth adjustments of the past few years, and even Africa may turn in a better performance, although that continent is economically too small to affect the world economy much. Modern economies are still based heavily on energy, even though the efficiency with which it is used is improving steadily and is vastly greater than it was 25 years ago, before the 1973 oil shock. Developing countries, in particular, rely increasingly on hydrocarbon fuels as they move from subsistence to manufacturing economies. Oil is still the unmatched fuel for transportation, and with modernisation the demand for transportation increases more than proportionately. (Synthetic oil can be made from coal and from natural gas, but it remains uncompetitive with petroleum in cost.)

Taking these and various other factors into account, the US Department of Energy (1996) projects that the world demand for oil will grow by 30.4 million barrels a day (mbd) between 1995 and 2015, or by 44 per cent (rather less than the 49 per cent growth in total energy demand). Of this increase in demand, only 7.5 mbd are projected to come from today's rich countries of Europe, Japan and North America; the remaining 22.8 mbd increase will arise in today's relatively poor countries, of which in turn 14.1 mbd arise in Asia (excluding Japan). China alone will increase its demand for oil, and its imports, by 5 mbd.

The world will not, perhaps surprisingly, have difficulty in supplying this increase in oil. Technological developments have greatly improved the prospects and reduced the costs of exploring for and developing new oil wells, both on land and under water. But the most economical oil remains in the Persian Gulf region, and if the countries of that region are willing to undertake the necessary investments in exploration and development, this great increase in demand can be satisfied at only modest increases in price. (The DoE reference case projection assumes a price, in 1994 dollars, of $25.43 a barrel in 2015; other forecasters assume an ever lower price.)

On these price and investment assumptions, oil production outside of OPEC will grow by less than 3 mbd between 1995 and 2015, leaving 28 mbd to come from OPEC countries; of these, only Venezuela outside the Persian Gulf region can be expected to be a significant contributor, leaving over 25 mbd of the increase — nearly equal to total OPEC oil production in 1994, of which 18 mbd from the Persian Gulf — to come incrementally from the Persian Gulf countries.

If these projections are realised, world oil production coming from the Persian Gulf will rise from 29 per cent in 1994 to over 46 per cent in 2015. Demand for oil tankers will also rise sharply.

We know from the experiences of 1973–74 and 1979–80 that a several-fold rise in oil prices, generated by an actual or an anticipated shortage of oil (actual oil production did not fall in 1979, but anticipations of shortage led to extensive build-up of stocks), can play havoc with the macroeconomics of countries around the world, being largely responsible for the 'stagflation' (deep recession combined with inflation) of the 1970s and the developing country debt crisis of the 1980s. So the damage can be severe. How high is the risk of another such disruption?

4. POLITICAL STABILITY IN THE PERSIAN GULF REGION

It is usually suggested that the Persian Gulf is a turbulent and politically unstable part of the world. In fact, there has been remarkable political stability in the region, at least as measured by the longevity of its leaders and key decision-makers. King Hussain of Jordan came to the throne in 1952, 46 years ago. Asad has been president of Syria since 1971, and the leaders of Libya, Oman, and the UAE have been in power for over 25 years. Saddam Hussain has been president of Iraq since 1979 and was a key decision-maker before he assumed that title. Mubarak became president of Egypt after Sadat's assassination in 1981; and Fahd became king of Saudi Arabia in 1982, sixteen years ago, but as Crown Prince he was the key Saudi decision-maker for seven years before that. Even the Iranian revolution and its clerical regime are now 19 years old.

Compared with many other parts of the world, this looks like a picture of durability and stability, to outsiders and residents alike. In South America, for instance, most countries changed not only leaders but governmental regimes during the 1980s, and also introduced extensive changes in both economic and human rights policies. African nations typically face periodic coups, punctuated by civil or tribal wars. Even democratic Turkey had military coups in 1970 and 1980, although in both cases the military leaders returned the country to democracy after a few years.

What then makes the Middle East seem turbulent and politically unsettled? There are at least three reasons. First, there has been continuing although diminishing official hostility to Israel from most Arab states in the region, joined by revolutionary Iran in 1979. Syria is still formally at war with Israel. Much public resentment towards Israel persists among Arab publics, fed by Israel's occasional intransigence toward Palestinians, even while governments one-by-one come to terms with Israel's existence. Second, some states have designs on their neighbours — not only Palestinians toward Israel and its occupied territories

and Syria toward the Israeli-occupied Golan Heights, but also Iraq on Kuwait and Iran on the *regimes* if not the territories of several other countries. Iran has occupied several islands in the Gulf claimed by the UAE. Iraq formally recognised its borders with Kuwait in November 1994, but only after a test of wills with the United States when it provoked US military re-enforcement by moving tanks, artillery, and other forces threateningly toward Kuwait. With the resumption of limited legal Iraqi oil exports in early 1997 under UN Resolution 986, relieving domestic economic pressure on Saddam, he threatened to raise oil prices to Jordan if that country did not crack down on Iraqi opposition groups there. There is every reason to suspect that Iraq under Saddam, subdued but unreconstructed, would move against Kuwait again if he thought he could do so with impunity. Only Jordan among countries in the region has settled borders. Several countries are actively trying to develop weapons of mass destruction — nuclear, chemical, biological, or even all three, including the medium range missiles to deliver them. Thus many governments *feel* threatened from their neighbours.

Third, some governments face strong and even violent dissent from their own citizens. All governments except Israel's in the region are in many respects authoritarian, and Syria and Iraq are ruled by cruel and brutal dictators. Effective political dissidence is not mainly by potential democrats and civil libertarians, but rather by religious or ethnic opponents to the existing regimes. The rulers of Syria and Iraq are drawn from minorities of the population, and have not hesitated to suppress violently opposition from other groups. Moreover, Islam as a religion and as a creed for political organisation holds political rulers accountable to the rule of law as well as to specifically religious injunctions on behaviour. So rulers that deviate from acceptable behaviour risk religious wrath, and authoritarian regimes provide no peaceful outlet for this dissatisfaction (such as Jordan's parliament is beginning to provide). The clerical regime in Iran faces the age-old tension between Islamic severity and Persian indulgence, as well as tensions with Iranians who wish to be part of the modernising world.

During the next decade several countries will face acute problems of succession, since today's rulers have striven to avoid cultivating potential political rivals. Asad of Syria (aged 68 and ailing), Mubarak of Egypt, Qadhafi of Libya, and Saddam of Iraq all have no plausible designated successors; their demise will almost certainly precipitate a serious, perhaps violent, struggle for power in those countries. In contrast, democratic Israel, clerical Iran, and most of the kingdoms have regular and accepted processes for succession, with royal succession perhaps being the smoothest and least disruptive.

It is important to recognise that tensions within the region will not disappear even with complete and amicable settlement of the Israel-Arab disputes and formal conclusion of peace. Paradoxically, disagreements with Israel provided some common cause among Arab states and permitted them superficially to

submerge other fundamental differences among them. But the second and third groups of factors mentioned above will not disappear with a peace agreement, and in any case Arab-Israeli discussions will probably make only fitful progress over the next two decades, so that issue will also continue to nag at the region.

It is worth noting also that the Persian Gulf is embedded in a larger region of tension and potential for violent conflict. Mutual suspicion between Greece and Turkey threatens periodically to break into open hostility, with Cyprus as a focal point. It has been contained so far by their joint membership in NATO and ties with the United States. The Kashmiri problem entered its 50th year in 1997, with no sign of resolution. While neither India nor Pakistan want war, their mutual suspicions could lead to fatal miscalculation. Afghanistan remains embroiled in civil war, and peace is only tenuously maintained within Tajikistan of the former Soviet Union. Conflicts in the neighbourhood could embroil countries in the oil-exporting Persian Gulf, at least indirectly (e.g., by being tempted or expected to provide financial support to one of the antagonists). But the distances involved are substantial. Kuwait at the head of the Persian Gulf is roughly equi-distant between Istanbul and Karachi, about 1,200 miles from each (the distance from Boston to Miami).

5. POLITICAL AND ECONOMIC INTERESTS OF THE PERSIAN GULF STATES

What about the interests of governments in the Gulf region? Oil accounts for over 85 per cent of the export earnings of all the Gulf countries (75 per cent for Qatar) and, more significantly, for three-quarters or more of government revenues (since the state owns the oil in all these countries). Imports, including especially food imports and most manufactured consumer goods, are critical to maintaining living standards. When allowance is made for an increase by more than forty per cent in populations, imports on a per capita basis have declined markedly over the past decade — not just in Iraq, which is subject to United Nations embargo, but in most of the other oil-exporting countries as well.

Thus, governments of these countries are vitally dependent on the export of oil for the well-being of their citizens and for their political survival. To a high degree the interests of the oil-exporting countries and those of the oil-importing countries converge: the latter badly need the oil, and the former badly need the revenue from oil. They have a common interest in maintaining a steady flow of oil into world markets. When over-spending Iraq invaded Kuwait in 1990, it was to get its hands on the revenues from Kuwait's oil production (and perhaps Kuwait's large overseas assets as well), not to throttle the production of Kuwaiti oil, although if successful Saddam Hussain probably would have intimidated Saudi Arabia into cutting Saudi production enough to raise the world price from the then-prevailing $18 a barrel to, say, $25 a barrel.

What about oil prices? Here there is of course some divergence of interest between importers and exporters, but more importantly among the oil exporters themselves. Saudi Arabia, Kuwait, and the UAE have very large proven and probable oil reserves, 90 to 150 times current annual production. Iraq and especially Iran have somewhat smaller oil reserves relative to normal full production, although Iran has very large reserves of natural gas.

The consequence of these divergent reserve/production ratios is that Iraq and especially Iran have an interest in higher oil prices than do the other large-production countries. Of course, all can gain by higher prices in the short run, and their financially-strapped ministries of finance welcomed the price increase of late 1996. Given heavy world dependence on Persian Gulf oil in the next two decades, as discussed above, they could raise the price in the short run if they all acted together to restrain production. But cooperation among them has proven difficult, since each wants the *others* to bear the burden of restricting output. And the lesson of the 1973 OPEC decision (led by the Shah of Iran) to raise oil prices by a factor of three has not been lost on those with large oil reserves: while the revenue gains were large in the first few years, it not only generated a world recession but also induced extensive energy conservation which is still occurring, over 20 years later. Technologies stimulated by the high oil prices are still being installed as old equipment and buildings are gradually replaced with new, more energy-efficient equipment and structures. Countries with large oil reserves fear a decline in the value of their national wealth if effective substitutes for oil can be found, and therefore desire relatively stable but remunerative prices, low enough to inhibit the development of alternative, higher-cost sources of oil supply as well as energy-saving innovations. But these processes of induced innovation and replacement of existing capital take much time; countries with relatively low reserves have everything to gain by high prices in the short run, provided some other countries restrain production to achieve them.

To increase oil production by 18 mbd over the next two decades will require much investment by Persian Gulf countries, in well development and infrastructure for collection and shipment, even though this is thought to be the lowest-cost source of oil in the world. Will the governments undertake the requisite investment in time? All these countries are experiencing a rapid growth in population (at 3.6 per cent a year, Iraq and Saudi Arabia are among the highest in the world) with few opportunities for productive employment. Thus the governments badly need the revenue to provide for increased housing, education, fresh water and sanitary facilities, as well as for employment. This will encourage them to invest for higher production if they believe they can sell it. So long as political stability seems likely, they can borrow the funds in the world capital market, against future oil revenues.

For these various reasons, governments in the Persian Gulf countries are not likely deliberately to disrupt the flow of oil. There is one possible exception. As

noted, Iran would welcome much higher oil prices if they could be brought about without restricting Iranian oil production — that is, if they could be brought about by restricting production in Saudi Arabia, Kuwait, the UAE or Iraq (once full Iraqi oil production resumes). The most likely target would be the Arab Shia oil workers in eastern Saudi Arabia, a minority in a predominately and emphatically Sunni country. Through subversive activity Iran might encourage or induce strikes or riots among the Shia workers, on either religious or political grounds. (A much higher percentage of foreign oil workers in Kuwait and the UAE make successful agitation in those countries less likely.) Such a possibility is of concern to the Saudi Arabian government, leading it both to adopt stringent security measures against possible Iranian subversion and to adopt political and religious policies aimed at minimising or at least reducing potential dissidence among the Shia Arabs.

6. VULNERABILITY TO OIL DISRUPTION

If sitting governments are not likely deliberately to disrupt the flow of oil, disruptions are most likely to arise from internal conflicts between contending claimants to succession to leadership. This could arise either as an inadvertent by-product of the conflict, or deliberately if one faction wanted to deny oil revenues to a competing faction. A succession struggle is likely to be confined to a single country (although factions may enlist tacit or overt support from neighbouring governments); of the major (potential) oil producers such struggles are most likely in Iraq and Libya.

But that still leaves the possibility of disruptive action by non-state actors — disaffected ethnic, religious, or other political groups — attacking the sitting government or the very system of government; or by a government that perceives it has nothing to lose. How much damage could they do?

There are two sources of exit for Persian Gulf oil: (1) through pipelines to loading terminals in the Gulf, thence into tankers which exit through the Strait of Hormuz, the entrance to the Gulf from the Arabian Sea and the Indian Ocean; and (2) through pipelines to loading terminals on the Red Sea (Saudi Arabia) or Mediterranean Sea (Iraq through Turkey), thence into tankers destined for distant refiners and distributors. Before reaching the loading terminals the oil must be gathered from the disparate oil fields and the gas and other unwanted materials separated from them. Thus, there are four potential bottlenecks: gas-oil separators, which are large, expensive pieces of equipment; pipelines to terminals; large loading terminals, which are relatively few in number; and the Strait of Hormuz. For oil pumped to the Red Sea, the Suez Canal might seem to be a significant bottleneck; but it was closed for 15 years after 1967, giving great encouragement to supertankers, which are too large to use the Suez Canal, but

offer cheap transportation anyway. In any case, the most rapidly growing markets for oil will be in Asia, and tankers can exit the Red Sea to the south.

Pipelines are long and vulnerable, and can be cut without to much difficulty. But they are easy to repair too. Gas-oil separators are highly specialised and expensive machines, with long procurement lead times. A loss could be significant, but can be avoided by installing excess capacity and pre-ordering spare machines, which Saudi Arabia has allegedly done. Loading terminals are robust and relatively easy to protect physically against major raids, except by a well-armed foreign power. Of course, effective protective, preventive, and remedial measures assume that a government is effectively in charge. As noted, governments have a strong interest in maintaining the flow of revenue from oil. By the same token, however, well-organised dissident groups may wish to deny revenue to the government. Civil war or even major and persistent guerrilla actions could be highly disruptive, but without substantial outside help they are also highly unlikely during the coming decade.

What about the Strait of Hormuz? Despite its constrictive appearance on a map of the world, this is not a small body of water. The Strait is about 35 miles wide at its narrowest point (nearly twice the width of the English Channel), and exceeds 45 meters in depth through most of its width, sloping gradually from the Iranian side to over 200 meters deep off the coast of Oman. The two ship channels (one for in-coming vessels, the other for out-going, separated by two miles and each two miles wide) lie wholly within the territorial waters of Oman at the narrowest point. In the mid-1990s traffic averaged around 60 ships a day, roughly one-quarter of which were tankers. This is heavy, but only one-third of the traffic through the slightly narrower Strait of Malacca, and somewhat lighter than traffic through the much narrower Bosporus.

The Strait of Hormuz is thus much too large and too deep to be physically blocked, as the Suez Canal was in 1967. Shipping could however be attacked by military forces, and the Strait could be mined by a national power of some means. Iran is establishing the wherewithal to do either. It has acquired two Kilo-class submarines from Russia and has two more on order. It has acquired land-based silkworm missiles from China, and has located them near the Straits. And its air force has attack planes originally supplied by the United States and by France. It mined the Persian Gulf during the 1980–88 Iran–Iraq war, especially after Iraqi planes attacked its off-shore oil-loading terminals, and presumably maintains a large inventory of mines. Of course such actions in the Strait, in the territorial waters of Oman, would be an act of war. Conceivably, Iran could deny responsibility for mine explosions that damaged one or several ships. It could even feign participation in mine searches. The presence of mines would inhibit commercial shipping, and insurance rates on Gulf-bound vessels would rise substantially, perhaps prohibitively. So some disruption could be caused, although short of war it would be strictly temporary. Even with war, the Strait

could be cleared of danger relatively quickly (measured in weeks, not days) if US forces were engaged to do so.

But as noted above Iran has no interest in preventing oil from being shipped out of the Persian Gulf, or merchant goods from being shipped into the Gulf. Iran is highly dependent both on the oil revenues and on the imported goods. Thus an attempt by Iran to block the Strait of Hormuz would be an act of desperation, induced by what Iran considered extreme provocation, such as an attempt by its neighbours or the international community to embargo or blockade Iran.

7. SUMMARY OF ANALYSIS

During the next two decades the world will become much more dependent on oil originating in the Persian Gulf region, exceeding that of the early 1970s. The Middle East is seen as a politically turbulent and unstable region of the world. In fact, longevity of leadership and even stability of regime have been longer there than in many other parts of the world. Moreover, most of these governments are highly dependent on sales of oil as their major source of revenue, and hence of legitimacy; they have every interest in maintaining and even enlarging their exports of oil.

Nonetheless, neighbouring countries distrust one another, and have armed accordingly; actual or potential domestic political unrest is present in many countries; some will face serious and possibly violent succession struggles on the death of the current leaders. So some disruption of oil flows arising from political turbulence cannot be ruled out.

8. ACTIONS TO REDUCE VULNERABILITY TO OIL DISRUPTION

What can the rest of the world, and the United States in particular, do to reduce its vulnerability to disruptions to Persian Gulf oil, on which the world will become increasingly dependent over the next few decades?

First, it can avoid isolating Iran to the point at which mining the Strait of Hormuz would become tempting to that country. Second, it can help Saudi Arabia and other friendly Persian Gulf oil producers with security of their physical facilities, and encourage the installation of some excess capacity, perhaps even sharing some of the cost. Reducing visible US presence in those countries may be necessary to avoid providing a focal point for domestic political dissidents.

Third, it can continue to diversify sources of *energy*, through a vigorous programme of research to improve efficiency in the use of energy and to develop economic alternatives to oil as a fuel for motive transportation.

Fourth, it can continue to develop alternative sources of *oil* to the Persian Gulf. This is partly a question of new technologies to open up hitherto inaccessible areas (like deep-water continental shelves) and to improve extraction rates from existing wells. It is also a question of political and economic steps to open up known economic sources of oil, of which the Caspian Sea region is the most promising. Oil (and gas) deposits are extensive, and allegedly can be extracted economically. But they are far from major markets and even export through pipelines will be expensive. Ironically, the most economic route for a pipeline might be through Iran to the Persian Gulf. That obviously would not reduce dependence on Gulf oil. Alternatives involve pipelines through Russia and/or Georgia to the Black Sea (increasing congestion in the narrow Bosporus), or through Armenia or Iran and Turkey to the Mediterranean. Russian domestic and international politics provide the major near-term obstacle to finding an acceptable route, but that problem will presumably be solved in the next several years. Ultimately the Caspian region (Turkmenistan, Kazakhstan and Azerbaijan) could produce as much as six mbd, contributing considerably to the growing world demand for oil.

Fifth, the International Energy Agency should maintain its emergency oil sharing plans, which inter alia involve the requirement that members (basically, Europe, North America and Japan) maintain oil stocks at least equal to 90 days of imports. A major component of this is the US Strategic Petroleum Reserve, which at the end of 1996 stood at 564 million barrels, down by 28 million barrels from a year earlier. It would be a mistake to sell additional SPR oil for transitory budgetary gains just as the world is once again entering a period of tight oil markets and rapidly growing demand for oil from the Persian Gulf.

REFERENCES

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